



GSTIN : 20AAAAI0686D1ZA
भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

No. EDC-500306-2017-18

Date: 5 November 2017

NOTICE INVITING TENDER

Subject: NIT No. EDC-500306-2017-18 for Supply & Installation of E-enabled Newton Classroom with advanced feature equipment/hardware

Indian Institute of Technology (Indian School of Mines), Dhanbad invites tenders/ quotations for Supply, Installation, E-enabled Newton Classroom with advanced feature equipment/hardware - 01 No in our EDC Department. **Particulars of tender cost, earnest money deposit and date and time of submission and opening of tenders are as under:**

S No	Items	Particulars
1.	Tender cost	Rs.1,000.00 (Rupees One thousand only)
2.	Earnest money deposit	Rs.23,000 (Rupees Twenty Three Thousand only)
3.	Date and time for submission of tenders	29.11.2011 at 3:00 P.M.
4.	Date and time of opening of tenders	29.11.2011 at 4.00 P.M.

Tender document containing following document is available in our website www.ismdhanbad.ac.in/tender_page), which may kindly be referred.

1. Technical specifications as per Annexure-IA &1B
2. General terms & condition as per Annexure-II
3. Particular of Bank Guarantee towards EMD as per Annexure –III
4. Compliance Statement as per Annexure –IV
5. Financial Bid Annexure – V)

Those firms who do not want to quote may please intimate us along with reasons for same as it will help us to update our suppliers list.

Encl: As above

Asst. Registrar

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Annexure-1**Tender Schedule**

- Bidder to quote with 5 years project warranty
- Being a turnkey project, entire cost of project will only be considered for evaluation, not the individual item cost.
- Bidder to supply and install audio visual equipments as per tender BoQ at their own cost. IIT (ISM) Dhanbad will provide all necessary civil, electrical, conducting, raceways and IT support for audio visual installation.
- The models of equipments are subject to change as per the discretion of manufacturer. Bidder to ensure that if the model quoted in tender changes during supply, they must supply rollover model / models ensuring that solution functionality remains unchanged.
- Bidder should provide necessary tender specific authorization from OEMs for products as mentioned below quoting in the tender and executing the project if declared as successful bidder, without which the bid will not be considered for evaluation:
 - Projectors, LED Display if any
 - Audio System (Speakers, Microphones, Amplifiers, DSP, Mixer) if any
 - Audio Visual backend (Switchers, Transmitter-Receiver, Extenders, Scalars, Distribution Amplifiers, Control system processors) if any

Desired Functionality for Newton classroom**Display System**

- The system is designed to make computer presentation on front projection system with 94" motorised screen.
- Input Source - 1 no active box mounted beneath the teacher's table / podium having VGA, Audio, HDMI input connectivity and wireless presentation.
- Output Device - Projector with motorized screen.
- Output Device – Tablet monitor for highlighting/annotating on the content being presented wirelessly.
Note: If highlighting/annotation is to be done on the content being presented through laptop USB need to be connected manually from laptop to the interactive tablet and any necessary software should also be pre-installed.

Audio System

- The system is designed to provide program and local reinforcement audio through the fixed install wall mount speakers.
- Audio from HD Scaling Auto-Switcher & Extender box will be fed to amplifier and amplifier further will drive the no wall mount speakers.
- Wireless collar microphone is to be provided for lecturer.

Button control

- Button control panel to be mounted on podium can be used for input source switching and projector on/off.

Installation System

- Industry standard modular cabinet (equipment rack) with front glass door accommodates the installed AV equipment's and provides ease of access for future servicing requirements.
- Equipment rack will be placed in front corner of the room.

Brief Wireless presenter functionality and use



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- Required wireless device need to be browser based; hence the user needs to be connected to the WIFI network of the wireless presentation device.
- Once the user is connected to the WIFI network of the wireless presentation device user needs to type the IP being reflected on the screen in the browser which will download the temp file and enables user share the presentation.
- Wireless device also need to have USB Document Viewer/ Media Player Plays any document, image, audio and video file directly from your personal USB.
- Presenter needs to use a mouse (to be directly connected to wireless presentation device) to play USB media files, control projecting computers, access teacher/moderator control or select users from the queue.
- Wireless device also has onScreen Annotation feature During a presentation, write, draw and annotate on-screen using the built-in annotation overlay (This feature should be compatible on the annotation tablet suggested in the BOQ)

Desired Functionality for Senate Hall

Display System

- The system is designed to make computer presentation on front projection system with 123" motorised screen.
- Input Source - 1 no active box mounted beneath the teacher's table having VGA, Audio and HDMI input connectivity.
- Output Device - Projector with 123" motorized screen.
- Switching System - HD Scaling Auto-Switcher & Extender box accepts VGA+ Audio and HDMI input and will be fed to projector.

Audio System

- The system is designed to provide program and local reinforcement audio through the fixed install wall mount speakers.
- Audio to be controlled through touch panel.

Control System:

- The central controller manages the signal routing, various equipment's ON/OFF, source input switching.
- The central controller is driven through wireless touch panel graphical user interface.

Installation System

- Industry standard modular cabinet (equipment rack) with front glass door accommodates the installed AV equipment's and provides ease of access for future servicing requirements.
- Equipment rack will be placed in front corner of the room.



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Newton - BOQ AND SPECIFICATIONS

Display System

Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price
1	3.4 K Im, WXGA, HDMI, VGA short throw projector	Projector Projection System 3LCD Technology Light Output 3,400 Lumen- 1,900 Lumen (economy) White Light Output 3,400 Lumen - 1,900 Lumen (economy) In accordance with ISO 21118:2012 Resolution WXGA, 1280 x 800, 16:10 High Definition HD ready Aspect Ratio 16:10 Contrast Ratio 16,000 : 1 Light source Lamp 215 W, 5,000 h durability, 10,000 h durability (economy mode) Keystone Correction Manual vertical: $\pm 15^\circ$, Manual horizontal $\pm 15^\circ$ Projection Ratio 0.48:1 Zoom Digital, Factor: 1 - 1.35 Lens Optical S-Video in, Component in (2x), Composite in, HDMI in, VGA out, VGA in (2x), Wireless LAN IEEE 802.11b/g/n (optional), Wired Network, RS-232C, USB 2.0 Type B, USB 2.0 Type A Preferred Makes : Epson, Christie, NEC			Piece	1.00		
2	Standard 3 feet Projector ceiling mount	Standard 3 feet Projector ceiling mount			Piece	1.00		



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3	Motorized Screen 16:9 with S/R 94"	Projection Screen Universal mounting brackets for easy installation anywhere The pentagonal-shaped steel case should have scratch-resistant white polyester finish. Aspect Ratio 16:10 Motorised screen Matt White Projection Screen Surface Smooth operation 220V power supply Built in LVC for efficient controlling with the help of a control system Diagonal Size: 94" Preferred Makes : Draper , Da-Lite , DNP			Set	1.00		
4	Annotation tablet	Tablet Monitor Screen size : 15.6" (344.232 x 193.536 mm) active matrix TFT LCD or better Resolution : 1366 x 768 (WXGA) or better Aspect ratio : 16:9 or better Response time: 8 ms or better Luminance: 255 cd/m2 or better Contrast ratio : 400:1 (typical) or better Viewing angle : 90°/ 65°(typical) or better Video input : Analog (RGB) / digital (DVI-I) or better Video output : Analog (RGB) / digital (DVI-I) or better Technology : Electromagnetic resonance technology (EMR) or better Interface : USB (2-port USB hub built-in) or better Power consumption : 29W (Max), 2W or less in sleep mode, 1W or less in off mode or better Preferred Makes : Wacom , Hitachi , Elo			Piece	1.00		
5	Customised metal body podium	Customised metal body podium			Piece	1.00		
Display System							Subtotal:	
Video and Switching System								
Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price



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6	HD Scaling Auto-Switcher & Extender	<p>4 input(transmitter + receiver) auto-switching, auto-detecting multi-format digital/analog inputs Inputs: 3 HDMI inputs, 1 VGA & audio input Output on transmitter: (1) 8-pin RJ45 female, shielded; Signal extension link output port; Connects to the FROM TX, INPUT 2 port of the companion receiver via CAT5e Outputs on reciever: HDMI & analog stereo HD video scaler and deinterlacer, noise reduction, 3:2/2:2 pull-down detection and recovery, aspect ratio selection, VGA phase/clock & H/V position adjustments, picture and RGB color adjustments Scaler Output Resolutions, HDMI, Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 840x480@60Hz, 1024x768@60Hz, 1280x720@50/60Hz (720p50/60), 1280x768@60Hz [11], 1280x800@60Hz [11], 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz [11], 1400x1050@60Hz [11], 1440x900@60Hz [11], 1600x900@60Hz [12], 1600x1200@60Hz, 1680x1050@60Hz [11], 1920x1080@24/50/60Hz (1080p24/50/60), 1920x1200@60Hz [12] Scaler Output Resolutions, HDMI, Interlaced: 480i, 576i, 1080i25, 1080i30 Preferred Makes - crestron, AMX, Lightware</p>			Piece	1.00		
7	Cable cubby	<p>Cable access Enclosure Should have Easy access to cables Should have Pass through Connectivity for HDMI Should have Compact Size with square bezel Should have Unswitched AC power outlet Black or Brushed Aluminium finish or better Should be CE Compliant PreferredMakes : Magnum , AMX , Crestron</p>			Piece	1.00		



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8	Wireless presentation gateway with USB document viewer	Wireless Presentation Gateway HDMI output with embedded audio VGA output with 3.5mm audio port Onboard ethernet LAN port Built-in wireless access point dual front USB ports for control Resolution: 1080p 64 user queue quadrant display Cross-platform application Multitouch touchscreen control: upto6 Preferred Makes : wePresent, Extron, Crestron			Piece	1.00		
9	6ft HDMI patch cable	HDMI Patch Cable 6 feet high-speed HDMI cable 24k gold-plated 19-pin Type A connectors RoHS compliant Supports 4K Ultra HD video Supports Full HD 1080p with Deep Color and 3D Preferred Makes : Extron , Crestron			Piece	4.00		
10	6ft VGA + Audio patch cable	VGA + Audio Patch Cable High-bandwidth computer VGA cable w/audio - 6ft Integrated mini-TRS stereo audio cable Supports computer resolutions up to WUXGA High-density 15-pin connectors RoHS compliant Preferred Makes : Extron , Crestron			Piece	1.00		
11	Twisted pair extender	HDMI Extender Shall be HDBaseTCertified 4K Ultra HD signal extender Shall Extend uncompressed digital video, audio, and control signals over a single CAT type twisted pair cable Supports Dolby® TrueHD, DTS-HD®, and uncompressed 7.1 linear PCM audio Supports cable lengths up to 330 ft (100 m) for 1080p, WUXGA, and 2K using CAT5e. Supports 4K and UHD for cable length using 165 ft (50 m) using CAT5e Compatible with HDMI®, DVI, and DisplayPort Multimode sources. Compatible with HDMI and DVI display devices HDCP 2.2 compliant ; should pass CEC and EDID Should Include universal IR repeater up to 455 kHz ; Extends bidirectional RS-232 up to 115.2k			Piece	1.00		

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		Baud 24VDC power pack included PreferredMakes : Crestron/ AMX / Lightware						
12	Button control panel	Media Presentation Controller SDRAM 32 MB NVRAM 256 KB Flash 8 MB with 10 programable buttons Communications Ethernet 10/100 Mbps, auto- switching, auto-negotiating, auto- discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, Private Network Mode, SSL, SNMP, IPv4, SMTP e-mail client, Web Server, IEEE 802.3af & 802.3at Type 1 PoE compliant USB USB service port for computer console RS-232 2-way device control and monitoring up to 115.2k baud with software handshaking IR/Serial 1-way device control via infrared up to 1.2 MHz or serial TTL/RS-232 (0-5 Volts) up to 115.2k baud Customizable button engraving Connectors LAN PoE (1) 8-pin RJ45, female; 10Base-T/100Base-TX Ethernet port; Power over Ethernet compliant COM (3) Captive screw terminals; Bidirectional RS-232 port; IR (2) Captive screw terminals; IR/Serial output port; IR output up to 1.2 MHz; 1-way serial TTL/RS-232 (0-5 Volts) up to 115.2k baud RELAYS 1 – 2 (4) Captive screw terminals; Comprises (2) normally open, isolated relays; Rated 1 Amp, 30 Volts AC/DC; I/O 1 – 2 (4) Captive screw terminals; Comprises (2) programmable digital inputs; Preferred Makes - Crestron , Extron , AMX			Piece	1.00		
13	Power injector	Power Injector			Piece	1.00		
Video and Switching System							Subtotal:	
Audio								



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System

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14	STEREO MIXER	Audio Mixer Audio mixer for sound reinforcement applications that integrate microphones with stereo program audio One active-balanced, XLR microphone input channel. One active-balanced XLR microphone and 1/4-in. TRS line input channel. Three STEREO INPUT channels 12 V phantom power for condenser microphones. Stereo AUX level OUTPUTs Stereo MIC/LINE OUTPUTs Preferred Makes : Shure , Biamp , BSS			Piece	1.00		
15	Wireless lapel Microphone	Lavalier Wireless System Working Range : 91 m (300 ft) Line of Sight or better Lavalier System Type Condenser (electret bias) Frequency Response 50 to 20,000 Hz Polar Pattern Omnidirectional, uniform with frequency Impedance 3000 ohms Output Level Open Circuit Voltage: -38 dBV/Pa* (13 mV) *1 Pascal = 94 dB SPL Frequency Response : 50 to 15,000 Hz Bodypack transmitter with Easily accessible On / Off switch Wireless Receiver : XLR connector -20.5 dBV (into 100 kΩ load) 6.35 mm (1/4") connector -13 dBV (into 100 kΩ load) RF Sensitivity -105 dBm for 12 dB Image Rejection: > 50 dB, typical Housing : Molded ABS Preferred Makes : Shure , Beyerdynamic , Sennheiser			Piece	1.00		
16	Media Presentation Audio Amplifier	Audio Amplifier Compact stereo power amplifier 15 Watts per channel into 8 or 4 Ohms Stereo or mono-summed operation High-efficiency Class D topology Electronic short-circuit and overload protection Simple volume, bass, and treble adjustments Integral surface mounting flanges			Piece	1.00		



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		UL 2043 compliant Preferred Makes : Crestron/ Labgruppen / Bose						
17	Wall mount speakers	Wall mount speakers 2-way surface mount speaker Designed for high reliability in both indoor and outdoor applications Built-in 30 Watt 70/100V multi-tap transformer Allows 360° rotation and continuously variable positioning 100 Watts program power handling at 8 Ohms 80 Hz - 18 kHz frequency range Paintable to blend with surroundings Black in colour Preferred Makes - Crestron,Tannoy,Bose			Piece	2.00		
Audio System							Subtotal:	
Bulk Cables and Connectors								
Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price
18	Various Bulk Cables and Connectors with Accessories	Various Bulk Cables and Connectors with Accessories Approved make for cables: Kramer, Belden, Extron, Crestron			Lot	1.00		



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	equipment rack	Equipment Rack 9U height Multi Hollow Extruded Aluminum Frames Structure across the X, Y & Z axis to give an Uninstruct bolting mechanism (UL) and Further reinforced with 8 Nos. of corner bracket which ensure better stability and strength Configured to hold 19-inch equipment with the help of two pairs of mounting angle provided with square slots to accommodate M6 Cage nuts at universal pitch Pattern as per DIN 41494 Top cover ventilated on all sides along the width and depth thereby enhancing exhaust of hot air Cable entry provision is both at the top and bottom covers with 35mm round cable entry point, the cable entry provision comprising of a gland plate with cable entry points in round cut outs edge protected with rubber grommets Monitor Tray – Ventilation – Tray Specially designed with multiple bend and additional stiffeners for better load carrying capacity Metal Steel Ventilation Panel – Blank Ventilation Panels to help to fill the open space in the rack along with ventilation to facilitate air circulations Castor – 4 Nos. of heavy duty castors to take care of heavy load bearing capacities are provided, 2 Nos. in the front with Break & 2 Nos. on the rear without break. Rack mount channels with Hardware sets Earthing Strip – Copper strip to take care of the grounding Colour Finishing – RAL - 7035 & RAL - 7037 Fine Texture with 60 – 80 microns, for better finish and aesthetic look Preferred Makes : Valrack/ Middle Atlantic/ President			piece	1.00		
Bulk Cables and Connectors							Subtotal:	
Installation, Commissioning,Consultancy and Labour								
Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price



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20	Installation, Commissioning, Consultancy and Labour	Installation, Commissioning, Consultancy and Labour for supplied items only. Does not include any civil, electrical, carpentry or conduiting.				1.00		
							Subtotal:	

Grand total exclusive of TAX / GST

SENATE HALL - BOQ AND SPECIFICATIONS

Display System

Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price
1	5.5K lm, WXGA, projector	Projector Projection System 3LCD Technology Light Output 5,500 Lumen- 3,700 Lumen (economy) In accordance with IDMS15.4 White Light Output 5,500 Lumen - 3,700 Lumen (economy) In accordance with ISO 21118:2012 Resolution WXGA, 1280 x 800, 16:10 Aspect Ratio 16:10 Contrast Ratio 15,000 : 1 Lamp 300 W, 5,000 h durability, 10,000 h durability (economy mode) Keystone Correction Manual vertical: $\pm 30^\circ$, Manual horizontal $\pm 30^\circ$ Projection Ratio 1.26 - 2.30:1 Zoom Manual, Factor: 1 - 1.8 Projection Lens Zoom Ratio 1.26 - 2.3 : 1 USB 2.0 Type A, USB 2.0 Type B (Service Only), RS-232C, Wireless LAN IEEE 802.11a/b/g/n (optional), VGA in, VGA out, HDMI in (2x), HDBaseT, Miracast Preferred Makes : Epson, Christie, NEC	Epson		Piece	1.00		



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2	Standard 6 feet Projector ceiling mount	Standard 6 feet Projector ceiling mount	Online		Piece	1.00		
3	Motorized Screen 16:9 with S/R 123"	Projection Screen Universal mounting brackets for easy installation anywhere The pentagonal-shaped steel case should have scratch-resistant white polyester finish. Aspect Ratio 16:10 Motorised screen Matt White Projection Screen Surface Smooth operation 220V power supply Built in LVC for efficient controlling with the help of a control system Diagonal Size: 123" Preferred Makes : Draper , Da-Lite , DNP	Milan		Set	1.00		
Display System							Subtotal:	
Video and Switching System								
Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price
4	HD Scaling Auto-Switcher & Extender	4 input(transmitter + receiver) auto-switching, auto-detecting multi-format digital/analog inputs Inputs: 3 HDMI inputs, 1 VGA & audio input Output on transmitter: (1) 8-pin RJ45 female, shielded; Signal extension link output port; Connects to the FROM TX, INPUT 2 port of the companion receiver via CAT5e Outputs on receiver: HDMI & analog stereo HD video scaler and deinterlacer, noise reduction, 3:2/2:2 pull-down detection and recovery, aspect ratio selection, VGA phase/clock & H/V position adjustments, picture and RGB color adjustments Scaler Output Resolutions, HDMI,	Crestron		Piece	1.00		



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		<p>Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 840x480@60Hz, 1024x768@60Hz, 1280x720@50/60Hz (720p50/60), 1280x768@60Hz [11], 1280x800@60Hz [11], 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz [11], 1400x1050@60Hz [11], 1440x900@60Hz [11], 1600x900@60Hz [12], 1600x1200@60Hz, 1680x1050@60Hz [11], 1920x1080@24/50/60H z (1080p24/50/60), 1920x1200@60Hz [12] Scaler Output Resolutions, HDMI, Interlaced: 480i, 576i, 1080i25, 1080i30 PreferredMakes - crestron, AMX, Lightware</p>					
5	Cable cubby	<p>Cable access Enclosure Should have Easy access to cables Should have Pass through Connectivity for HDMI Should have Compact Size with square bezel Should have Unswitched AC power outlet Black or Brushed Aluminium finish or better Should be CE Compliant Preferred Makes : Magnum , AMX , Crestron</p>	Magnum		Piece	1.00	



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6	Wireless presentation gateway with USB document viewer	Wireless Presentation Gateway HDMI output with embedded audio VGA output with 3.5mm audio port Onboard ethernet LAN port Built-in wireless access point dual front USB ports for control Resolution: 1080p 64 user queue quadrant display Cross-platform application Multitouch touchscreen control: upto6 Preferred Makes : wePresent, Extron, Crestron	WePresent		Piece	1.00		
7	6ft HDMI patch cable	HDMI Patch Cable 6 feet high-speed HDMI cable 24k gold-plated 19-pin Type A connectors RoHS compliant Supports 4K Ultra HD video Supports Full HD 1080p with Deep Color and 3D PreferredMakes : Extron , Crestron	Crestron		Piece	7.00		
8	6ft VGA + Audio patch cable	VGA + Audio Patch Cable High-bandwidth computer VGA cable w/audio - 6ft Integrated mini-TRS stereo audio cable Supports computer resolutions up to WUXGA High-density 15-pin connectors RoHS compliant PreferredMakes : Extron , Crestron	Crestron		Piece	1.00		
Video and Switching System							Subtotal:	
Audio System								
Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price



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9	Wireless lapel Microphone	<p>Lavalier Wireless System Working Range : 91 m (300 ft) Line of Sight or better Lavalier System Type Condenser (electret bias) Frequency Response 50 to 20,000 Hz Polar Pattern Omnidirectional, uniform with frequency impedance 3000 ohms Output Level Open Circuit Voltage: -38 dBV/Pa* (13 mV) *1 Pascal = 94 dB SPL Frequency Response : 50 to 15,000 Hz Body pack transmitter with Easily accessible On / Off switch Wireless Receiver : XLR connector -20.5 dBV (into 100 kΩ load) 6.35 mm (1/4") connector -13 dBV (into 100 kΩ load) RF Sensitivity -105 dBm for 12 dB Image Rejection: > 50 dB, typical Housing : Molded ABS Preferred Makes : Shure , Beyerdynamic , Sennheiser</p>	Shure	Piece	2.00		
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10	Wireless Handheld Microphone	<p>Wireless Handheld Microphone Working Range : 91 m (300 ft) Line of Sight or better Audio Frequency Response 50 to 15,000 Hz Total Harmonic Distortion : 0.5%, typical Dynamic Range : 100 dB, A-weighted, typical</p> <p>Bodypack Transmitter : Audio Input Level : max: -16 dBV maximum min (0 dB): +10 dBV maximum Gain Adjustment Range : 26 dB Input Impedance : 1 MΩ RF Transmitter Output : 10 mW, typical Housing : Molded ABS</p> <p>Wireless Reciever : Output Impedance XLR connector : 200 Ω Audio Output Level : XLR connector: -27 dBV (into 100 kΩ load) RF Sensitivity : -105 dBm Image Rejection: > 50 dB, typical Housing : Molded ABS</p> <p>Cardioid Capsule : Type : Condenser, electret bias Frequency Response : 60Hz to 12,000Hz Polar Pattern: Cardioid (unidirectional) Signal to Noise Ratio : 66dB, 1kHz at 1 Pa Maximum SPL : 120dB Dynamic Range : 92dB Output Noise : 28dB (B (typical, A-Weighted) Preferred Makes : Shure , Beyerdynamic , Sennheiser</p>	Shure	Piece	2.00		
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11	Gooseneck mic	<p>Gooseneck Microphone 18" Cardioid Gooseneck Microphone Wide dynamic range and frequency response for accurate sound reproduction across the audio spectrum Should Have Mute Switch / LED Indicator Balanced, transformerless output for increased immunity to noise over long cable runs Transducer type : Condenser Frequency Response : 50 Hz to 17 kHz Dynamic Range (Typical) : 96.2 dB, (@ 1 kW Load) Signal-to-Noise Ratio : 66.0 dB, (Referenced @ 94 dB SPL) Maximum Input Sound Level : 124.2 dB, (1 kHz @ 1% THD, 1 kW Load) Power Requirements Phantom : (11 to 52v, DC) Output Impedance : 150 Ohms (180 Ohms Actual @ 1 kHz) Output Connectors :XLR-3M Type Preferred Makes : Shure , Beyerdynamic , Sennheiser</p>	Shure	Piece	3.00		
12	Audio DSP	<p>Digital Signal Processor w/USB Audio, AEC, & Audio Conferencing Interface Hybrid channel strip architecture Customizable inputs and outputs Eight internal aux buses Twelve mic/line inputs with 66 dB gain range Eight +24 dB balanced line outputs 8x8 USB Audio interface SIP or POTS audio conferencing interface Highest-quality converters, preamps,</p>	Crestron	Piece	1.00		



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		and line amps Clean and intuitive software AEC on each analog input Preferred Makes - Crestron, Biamp, BSS						
13	Amplifier	2x210W Commercial Power Amplifier, 4/8Ω or 70/100V Two channels each rated 210W@4Ω, 120W@8Ω, and 120W@70/100V Transformer isolated 70 and 100 Volt outputs Each channel selectable for 4/8Ω, 70V, or 100V operation Bridgeable for 420W@8Ω High-output power, low noise, low distortion performance Individual channel power control via jumper or remote contact Auto power-down after 30 minutes of no signal Over current and DC offset protection per output Professional balanced inputs Rear panel ±10dB input level controls Convection cooled - no noisy fans Single-space 1U rack mountable Preferred Makes - Crestron, Labgruppen, Bose	Crestron		Piece	1.00		



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14	Wall mount speakers	Wall mount speakers 2-way surface mount speaker Designed for high reliability in both indoor and outdoor applications Built-in 30 Watt 70/100V multi-tap transformer Allows 360° rotation and continuously variable positioning 100 Watts program power handling at 8 Ohms 80 Hz - 18 kHz frequency range Paintable to blend with surroundings Black in colour Preferred Makes - Crestron, Tannoy, Bose	Crestron		Piece	6.00		
Audio System							Subtotal:	
Control System								
<u>Sr. No</u>	<u>Description</u>	<u>Description</u>	<u>Make</u>	<u>Model</u>	<u>UoM</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Total Price</u>
15	Control system	Control processor Real-time, Multitasking Control processor Should have minimum of 512MB RAM Built in Should have minimum of 4GB Flash Built In It should support Expandable storage up to 1TB It should have Industry-standard Ethernet communications It should have built in Web server It should have minimum One RS-232/422/485 COM port It should have minimum Two RS-232 COM ports It should have minimum 8 IR/serial It should have minimum 8 Low Voltage relay ports It should have minimum 8 Versiport I/O ports It should have native support for BACnet/IP.	Crestron		Piece	1.00		



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		<p>It should be IPv6 ready</p> <p>It should IIS v.6.0 Web Server</p> <p>It should be controllable thru iPhone®, iPad® and Android without the need of any other hardware modules</p> <p>It should include a power supply, if it is not there, it should be separately quoted.</p> <p>rack-mountable</p> <p>Preferred Makes - Crestron,Extron,AMX</p>						
16	iPad Wi-Fi , 16 GB , Silver	<p>Touch Panel</p> <p>Retina Display or better</p> <p>9.7-inch (diagonal)</p> <p>LED-backlit Multi Touch display with IPS technology or better</p> <p>2048x1536 resolution at 264 pixels per inch (ppi) or better</p> <p>Fingerprint-resistant oleophobiccoatingor better</p> <p>Wi Fi (802.11a/b/g/n); dual channel (2.4GHz and 5GHz) and MIMO or better</p> <p>Bluetooth 4.2 technology or better</p> <p>Operating temperature: 0° to 35° C (32° to 95° F) or better</p> <p>Non-operating temperature: -20° to 45° C (-4° to 113° F) or better</p> <p>Relative humidity: 5% to 95% non-condensing or better</p> <p>Preferred Makes : Apple , Extron , Crestron , AMX</p>	Apple	Piece	1.00			



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17	Docking Station	Table Dock for iPad Air 2 Provides a stylish table dock for the iPad Air 2 Charges the iPad Air 2 while docked Allows for easy docking and undocking Preferred Makes - Crestron, Extron, AMX	Crestron/Eq		Piece	1.00		
18	Wi-fi access point		By IIT(ISM)		Piece	1.00		
19	Application software		Crestron		Software	1.00		
Control System							Subtotal:	
Bulk Cables and Connectors								
Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price
20	Various Bulk Cables and Connectors with Accessories	Various Bulk Cables and Connectors with Accessories Approved make for cables: Kramer, Belden, Extron, Crestron			Lot	1.00		
21	Equipment rack : To be kept in front corner	Equipment Rack 12U height Multi Hollow Extruded Aluminum Frames Structure across the X, Y & Z axis to give an Uninstruct bolting mechanism (UL) and Further reinforced with 8 Nos. of corner bracket which ensure better stability and strength Configured to hold 19-inch equipment with the help of two pairs of mounting angle provided with square slots to accommodate M6 Cage nuts at universal pitch Pattern as per DIN 41494 Top cover ventilated on all sides along the width and depth thereby enhancing exhaust of hot air Cable entry provision is both at the top and bottom covers with 35mm round cable entry point, the cable entry provision comprising of a gland plate with cable entry points in round cut outs			Per Meter	1.00		

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		edge protected with rubber grommets Monitor Tray – Ventilation – Tray Specially designed with multiple bend and additional stiffeners for better load carrying capacity Metal Steel Ventilation Panel – Blank Ventilation Panels to help to fill the open space in the rack along with ventilation to facilitate air circulations Castor – 4 Nos. of heavy duty castors to take care of heavy load bearing capacities are provided, 2 Nos. in the front with Break & 2 Nos. on the rear without break. Rack mount channels with Hardware sets Earthing Strip – Copper strip to take care of the grounding Colour Finishing – RAL - 7035 & RAL - 7037 Fine Texture with 60 – 80 microns, for better finish and aesthetic look Preferred Makes : Valrack/ Middle Atlantic/ President						
Bulk Cables and Connectors							Subtotal:	
Installation, Commissioning, Consultancy and Labour								
Sr. No	Description	Description	Make	Model	UoM	Qty	Unit Price	Total Price
22	Installation, Commissioning, Consultancy and Labour	Installation, Commissioning, Consultancy and Labour for supplied items only. Does not include any civil, electrical, carpentry or conduiting.				1.00		
Installation, Commissioning, Consultancy and Labour							Subtotal:	
Grand total inclusive of TAX / GST								



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Annexure-I 1

GENERAL TERMS & CONDITIONS

NIT No. EDC-500306-2017-18

Sealed tenders under **two-bid system** are invited from manufacturers/ their authorized dealers/ agents for supply and installation in IIT (ISM) Dhanbad of items specified in *Annexure-I*.

1. Offer should be submitted under **TWO-BID** system in two separate sealed covers i.e. “**Techno-commercial bid**” and “**Price bid**”.
2. *a) In a tender, either the Indian agent on behalf of the principle/ OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.*
b) If an agent submit bid on behalf of the principle/ OEM, the same agent shall not submit a bid on behalf of another principle/ OEM in the same tender for the same item/product.
3. **Techno-commercial Bid:** should contain the following documents/information:
 - a. **Tender Cost:** Cost of the tender document is to be paid by way of an A/C payee demand draft for an amount indicated in Page No 01 and drawn in favor of Registrar, IIT(ISM) Dhanbad and payable at SBI, ISM campus branch or any other Bank/ Branch located in Dhanbad. Tender cost is non-refundable and non-transferable. Alternatively, intending tenderers may **download** the complete set of tender document from IIT (ISM) website (www.ismdhanbad.ac.in) and submit the same duly signed on all pages by the tenderers along with demand draft for tender cost
 - b. **Earnest Money Deposit (EMD):** Should be submitted in form of A/C payee demand draft drawn in favor of Registrar, IIT(ISM) and payable at SBI, IIT (ISM) campus branch or any other Bank/ Branch located in Dhanbad. It can also be submitted in the form of bank guarantee issued by a Nationalized Bank in India in the format given in Annexure-IV.
 - c. Tenders without payment of tender cost and EMD will not be considered, unless the tenderer is exempt from such payment under Govt. Rules/ Regulations as amended from time to time and claims such exemption along with relevant and valid supporting documents.
 - d. All relevant technical specifications/details of offered items, drawings, printed technical leaflets, and commercial details which are necessary to ensure that offer is complete in all respects should be attached with the technical bid documents.
 - e. A ‘Compliance Statement’ along with a certificate and duly signed that the tenderer satisfies the technical requirements given in **Annexure-I**. The said statement should be in a tabular form with the columns: sl. no., (2) technical requirement as per NIT; (3) what is offered by the tenderer; and (4) status of compliance: Complied/Not complied).
 - f. IIT(ISM) does not bind itself to offer any explanation to those bidders whose Technical Bids have not been found acceptable by the Evaluation Committee of the Institute.
4. **Further the following documents have to be furnished by the tenderers:**
 - a) Self attested copies of credentials in support of capability to undertake the supply/work.
 - b) Technical literature/catalogue with the detail specification of the material
 - c) Satisfactory performance certificate from their customers for same/similar supply/service must be enclosed alongwith the technical bid.
 - d) Income tax PAN, Sales tax regn. Nos. (VAT/CST/TIN), & Bank A/c no., name of bank & branch.
5. **Price should be quoted on FOR, IIT(ISM) Dhanbad basis in case of Indigenous supply and CIF, Kolkata basis as well as FOR IIT(ISM) Dhanbad basis in case of foreign supply.** The packing, forwarding, freight and transit insurance charges, if any must be included in the price and should not be claimed separately. Duties & taxes, if applicable, are to be shown separately clarifying whether those are extra or included in the price. **Price bids of only technically qualified tenderers shall be opened in their presence on a pre-notified date and time.**
6. **Educational discount, if any, should be clearly mentioned.**



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(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

7. IIT(ISM) is entitled for Excise Duty Exemption under Govt. of India notifications and is registered with DSIR, Govt. of India for this purpose. This may be taken into consideration while quoting minimum possible rate. *Exemption Certificates* can be issued in favour of manufacturers only. It will not be issued any Indian Agent/dealer or distributor at any circumstances. IIT(ISM) will provide only custom duty exemption certificate for availing concessional custom duty. IIT(ISM) will not pay any extra custom duty other than duty exemption certificate.
8. IIT (ISM) does not issue form 'C' or 'D' for concessional Sales tax/VAT. Hence, full rate of sales tax as applicable to educational institutions against the form of certificate should be indicated.
9. **Warranty:** Minimum 05 years from the date of installation and commissioning at the site.
10. **Comprehensive Annual maintenance contract (AMC):** Minimum 05 years on expiry of warranty on yearly basis should be quoted. Offer including terms & conditions should be quoted on per year basis to enable purchaser make AMC for any period from 01 to 05 years. .
11. **Validity:** Offer must be valid for a period of **240 days** from the date of opening of tender
12. **Performance Bank Guarantee (PBG):** A bank guarantee issued by a Nationalized Bank in India towards PBG for an amount equal to 10% of basic value of purchase order and valid towards PBG for an amount equal to 10% of basic order value of purchase order and valid till the period beyond two months of completion of warranty period should be submitted in favour of **REGISTRAR, IIT (ISM) DHANBAD.**
12. **Delivery Period and Liquidated Damage:** The ordered materials/work complete in all respects are required to be delivered and installed within the period stipulated in the purchase order failing which liquidated damages of 1% per week for the delayed period subject to maximum of 5% of the total basic value of the order shall be deducted from the invoice of the supplier.
13. **Inspection:** Inspection shall be carried out at IIT (ISM), Dhanbad after arrival of the materials and decision of the Institute in this regard shall be final.
14. **Rejection and Replacement:** Rejection, if any, shall be notified to the supplier within 30 days of receipt and inspection of the material/workmanship. Rejected materials/work is to be removed by the supplier at his own risk and cost from IIT (ISM). Campus within 14 days of intimation of rejection. Defective Supplies are required to be replaced within 15 days of the removal of the rejected materials/work.
15. **Risk Purchase:** IIT (ISM) shall be at liberty to realize from the supplier the differential amount, if any, which it shall have to incur on purchase of the material/work at higher price(s) from elsewhere in the market, if the supplier, due to their fault, fails to supply the ordered quality and quantity of the material/work within the stipulated time.
16. Conditional offer will not be accepted.
17. **Payment:** will be made within 30 days (In case of inside in India)/ outside India through LC only) after satisfactory supply, inspection, installation/commissioning & acceptance and on submission of pre-receipted tax invoice, delivery challan, warranty certificate and installation report in triplicate and Performance Bank Guarantee. The invoice should be duly certified by the Head of Dept to which supply is made or any other IIT (ISM) official authorized for this purpose.
18. Your full address for correspondence and name address of the beneficiary's banker should be clearly indicated in the offer. **Institute does not make any advance payment.** However, as a special case 90% Letter of Credit Payment term is accepted only in case of foreign supplier and balance 10% after satisfactory, installation report received from the user department.
19. **Country of origin and port of shipment should be stated** in your offer clearly.
20. Name and address of Indian Agent, percentage of agency commission, if any and role of the Agent with respect to the subject supplies and a statement thereon that "Agency Commission is included in the
21. FOB/CIF price of the offer" should be clearly indicated in your offer.
22. Earliest/ expected delivery period should be clearly indicated.
23. Packing should be suitable for 'Air freight'.
24. Please note that no part shipment/transshipment/third party shipment is acceptable to us.



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25. **Last date** for receipt of tenders and date & time for opening of the same is given in page- 01. The tenders will be opened in the presence of representatives of tenderers present. ***In the event last date is a holiday/declared as a holiday, next working date will be the last date for submission/ opening of tender.***
26. Tender should be submitted in a sealed cover/envelope and must be superscribed as under:
- “Tender No. EDC-500306-2017-18 (Supply & Installation of E-enabled Newton Classroom with advanced feature equipment/hardware (..... at 4.00 p.m.).
 - All tender shall be received upto to the time and date as stated in the tender notice, after which no tender shall be accepted in any circumstances.
 - All tender must be sent by Registered Post/Speed Post/Courier along with Courier receipt, during IIT (ISM) working days only (i.e. Monday to Friday). Please note that no hand delivery of tender will be received at any circumstances.
27. The Institute at its discretion may change the quantity/quality/parameters/upgrade the criteria/drop any item(s) or part thereof at any time before placing the order. In case of any dispute, the decision of IIT(ISM) shall be final and binding on the bidders/tenderers.
28. The Institute reserves the right to accept or reject any or all the bids in part or in full without assigning any reason and does not bind himself to accept the lowest bid.

ABOVE TERMS AND CONDITIONS OF THE NIT ARE ACCEPTED

1	Name and address of the tenderer	
2	Telecom nos. of the tenderer i.e. phone fax, & email id.	
3	Signature, name & designation of the person signing on behalf of the tenderer & his/her office seal	
4.	Name & designation of the contact person & his phone/mobile no.	



GSTIN : 20AAAAI0686D1ZA
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Annexure-III

FORMAT OF BANK GUARANTEE TOWARDS EMD

Whereas _____ (hereinafter called “the Bidder”) has submitted its bid dated _____ (date of submission of bid) for the supply of _____ (name and/or description of the goods) (hereinafter called “the Bid”) against Tender Document No. _____ of the Indian School of Mines, Dhanbad.

KNOW ALL PEOPLE by these presents that WE _____ (name of bank) of _____ (name of country), having our registered office at _____ (address of bank) (hereinafter called “the Bank”), are bound unto _____ (name of Purchaser) (hereinafter called “the Purchaser”) in the sum of _____ for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 2009.

THE CONDITIONS of this obligation are:

1) If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or

2) If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of bid validity:

(a) fails or refuses to execute the Contract Form if required; or

(b) fails or refuses to furnish the performance security, in accordance with the Instruction to Bidders;

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to six months from the date of opening of tender or the period of the bid validity whichever is later and any demand in respect thereof should reach the Bank not later than the above date.

Signature of the Bank



GSTIN : 20AAAAI0686D1ZA

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Annexure-IV

Compliance Statement

Sl. No	Technical requirement as per NIT	What is offered by the tenderer	Status of Compliance Complied/Not Complied
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GSTIN : 20AAAAI0686D1ZA

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2017

Date: Aug ,

Annexure - V**Format for Financial Bid**

NIT No.: EDC-500306-2017-18

Date:

Bidders Ref: No.

Date

GSTIN No.:

Subject: Supply & Installation of E-enabled Newton Classroom with advanced feature equipment/hardware

Sl. No.	Full Description of Items with (HSN Code/SAC Code)	Qty.	Rate	Amount
		Packing & Forwarding (if any)		
		Total		
		GST		
		Freight (if any)		
		Installation (if any)		
Amount should be in figure as well as word		Grand Total		

Note:

- 1) All the details must be provided as per prescribed format only
- 2) Prices quoted by the bidders should include GST, HSN Code, SAC Code, duties, livies, transportation cost and insurance costs etc. if any
- 3) All the rates must be quoted in Indian Rupees.